AMENDMENTS TO THE CLAIMS:

(1) Please cancel claims 1-60 without prejudice or disclaimer of the subject matter thereof.

(2) Please add new claims 61-80.

Claims 1-60 (Canceled).

Claim 61 (New): A high impact strength, elastic laminate system for enhancing impact resistant properties of a laminate structure, said laminate system comprising:

a first outer layer;

a second outer layer;

at least two inner plies placed between the first and second outer layers;

at least one dissipating element between said inner plies adapted to dissipate and redirect randomly directed local loading applied to at least one of said two outer layers, to tensile loading directed in longitudinal direction (tensile) of said inner plies; and

a polymer matrix in between said first and second layers, and said first and second plies.

Claim 62 (New): The high impact strength, elastic laminate system as set forth in claim 61, wherein additional layers of said first and second plies, said dissipating element, and said polymer matrix are placed between said first and second outer layers.

Claim 63 (New): The high impact strength, elastic laminate system as set forth in claim 61, wherein said inner plies are reinforcement plies.

Claim 64 (New): The high impact strength, elastic laminate system as set forth in claim 63, wherein said reinforcement plies are made from a material selected from the group consisting, but not limited to, of E-glass, R-glass, S2-glass, aramids, carbon, single fibre reinforcement, hybrid fibre reinforcement (natural or non-natural), Quadriaxial, Unidirectional, Double-bias, Biaxial, Triaxial, Plain woven, and Woven rovings.

Claim 65 (New): The high impact strength, elastic laminate system as set forth in claim 64, wherein said dissipating element has a form selected from the group consisting of, but not limited to, expanded metal, ornamesh metal, rigidised metal, corrugated sheet, tubular, spherical, aluminum foam, and metallic foam-like structures.

Claim 66 (New): The high impact strength, elastic laminate system as set forth in claim 65, wherein said dissipating element is made from a material selected from the group consisting of, but not limited to, aluminum alloys, steel alloys, zinc alloys, titanium alloys, copper alloys, magnesium alloys, nickel alloys, aluminum alloy matrix composites, thermoplastics, plastics, polymers, foams, wood, and rubber.

Claim 67 (New): The high impact strength, elastic laminate system as set forth in claim 66, wherein said dissipating ply element comprises of at least two dissipating ply elements, said dissipating ply elements and said reinforcement plies are each arranged in an arrangement selected from the group consisting of unidirectional, cross-ply, symmetric, balanced, quasi-isotropic, and hybrid laminates.

Claim 68 (New): The high impact strength, elastic laminate system as set forth in claim 67, wherein said polymer matrix is made from a matrix selected from the group consisting of, but not limited to, Vinylester, Epoxy, Phenolic, fire retardant and corrosion resistant resin, and adhesive.

Claim 69 (New): The high impact strength, elastic laminate system as set forth in claim 68, wherein said first and second outer layers are made from a material selected from the group consisting of aluminum alloys, steel alloys, zinc alloys, titanium alloys, copper alloys, magnesium alloys, nickel alloys, alloy matrix composites, wood, plastics, rubber, paper, thermoplastics, polymers, foams, paints, and rubber.

Claim 70 (New): The high impact strength, elastic laminate system as set forth in claim 69, further comprising at least one additional layer placed on any one of said outer layers, said additional layer being made from a material selected from the group consisting of foams, wood, rubber, honeycomb structures, thermoplastics, plastics, polymers, hybrid sandwiches, and paper.

Claim 71 (New): The high impact strength, elastic laminate system as set forth in claim 70 wherein said dissipating elements being adapted to create an equilibrium of dissipated loads in said laminate structure with a component of the outer loading being redistributed in a longitudinal direction to the main axis of said reinforcement plies.

Claim 72 (New): The high impact strength, elastic laminate system as set forth in claim 71, wherein said laminate system is adapted to absorb impact energy from about 3770 to about 4000 J, and absorb and redirect forces from about 50 to about 190 kN.

Claim 73 (New): The high impact strength, elastic laminate system as set forth in claim 72, wherein said laminate system has a density range from about 1300 to about 2250 kg/m^3.

Claim 74 (New): A nanostructure comprising:

a first outer layer;

a second outer layer;

at least two inner plies placed between the first and second outer layers, said inner plies are reinforcement plies;

at least two dissipating elements between said reinforcement plies adapted to dissipate and redirect randomly directed local loading applied to at least one of said two outer layers, to tensile loading directed in longitudinal direction (tensile) of said reinforcement plies, said dissipating elements have a generally tubular configuration;

a polymer matrix in between said first and second layers, and said reinforcement plies; and

at least one additional layer placed on any one of said outer layers, said additional layer being made from a material selected from the group consisting of foam, wood, rubber, honeycomb structure, thermoplastic, plastic, polymer, hybrid sandwich, and paper;

wherein said dissipating elements being adapted to create an equilibrium of dissipated loads in said laminate structure with a component of the outer loading being redistributed in a longitudinal direction to the main axis of said reinforcement plies;

wherein said dissipating ply elements are arranged in an arrangement selected from the group consisting of unidirectional, cross-ply, symmetric, balanced, quasi-isotropic, and hybrid laminates.

Claim 75 (New): The nanostructure as set forth in claim 74, wherein said reinforcement plies are made from a material selected from the group consisting of, but not limited to, E-glass, R-glass, S2-glass, aramids, carbon, single fibre reinforcement, hybrid fibre reinforcement (natural or non-natural), Quadriaxial, Unidirectional, Double-bias, Biaxial, Triaxial, Plain woven, and Woven rovings.

Claim 76 (New): The nanostructure as set forth in claim 75, wherein said dissipating element is made from a material selected from the group consisting of aluminum alloys, steel alloys, zinc alloys, titanium alloys, copper alloys, magnesium alloys, nickel alloys, aluminum alloy matrix composites, thermoplastics, plastics, polymers, foams, wood, and rubber.

Claim 77 (New): The nanostructure as set forth in claim 76, wherein said polymer matrix is made from a matrix selected from the group consisting of Vinylester, Epoxy, Phenolic, fire retardant and corrosion resistant resin, and adhesive.

Claim 78 (New): The nanostructure as set forth in claim 77, wherein said first and second outer layers are made from a material selected from the group consisting of aluminum alloys, steel alloys, zinc alloys, titanium alloys, copper alloys, magnesium alloys, nickel alloys, alloy matrix composites, wood, plastics, rubber, paper, thermoplastics, polymers, foams, and rubber.

Claim 79 (New): A nanostructure comprising:

a first and second outer layer, said first and second outer layers are made from a material selected from the group consisting of, but not limited to, aluminum alloys, steel alloys, zinc alloys, titanium alloys, copper alloys, magnesium alloys, nickel alloys, alloy matrix composites, wood, plastics, rubber, paper, thermoplastics, polymers, foams, and rubber;

at least two inner plies being placed between the first and second outer layers, said inner plies are reinforcement plies made from a material selected from the group consisting of, but not limited to, E-glass, R-glass, S2-glass, aramids, carbon, single fibre reinforcement, hybrid fibre reinforcement (natural or non-natural), Quadriaxial, Unidirectional, Double-bias, Biaxial, Triaxial, Plain woven, and Woven rovings;

at least two dissipating elements between said reinforcement plies adapted to dissipate and redirect randomly directed local loading applied to at least one of said two outer layers, to tensile loading directed in longitudinal direction (tensile) of said reinforcement plies, said dissipating elements have a form selected from the group consisting of expanded metal,

ornamesh metal, rigidised metal, corrugated sheet, tubes, spherical, aluminum foam, and metallic foam-like structures;

a polymer matrix in between said first and second layers, and said reinforcement plies, said polymer matrix is made from a matrix selected from the group consisting of Vinylester, Epoxy, Phenolic, fire retardant and corrosion resistant resin, and adhesive; and

at least one additional layer placed on any one of said outer layers, said additional layer being made from a material selected from the group consisting of foam, wood, rubber, honeycomb structure, thermoplastic, plastic, polymer, hybrid sandwich, and paper;

wherein said dissipating elements being adapted to create an equilibrium of dissipated loads in said laminate structure with a component of the outer loading being redistributed in a longitudinal direction to the main axis of said reinforcement plies;

wherein said dissipating ply elements are arranged in an arrangement selected from the group consisting of unidirectional, cross-ply, symmetric, balanced, quasi-isotropic, and hybrid laminates.

Claim 80 (New): The nanostructure as set forth in claim 79, wherein said reinforcement plies and said dissipating ply elements are each arranged in an arrangement selected from the group consisting of unidirectional, cross-ply, symmetric, balanced, quasi-isotropic, and hybrid laminates.